

Patent Claims:

1. Fire grate, in particular for use in waste ^a ~~incinerators~~ ² with partly overlapping rows of grate bars, wherein along the longitudinal axis the grate bar rows are arranged alternately fixed and movable and wherein the grate bar rows are bordered by grate side plates, the grate side plates being movable transverse to their longitudinal axes and pressable towards the grate bar rows by tensioning devices which are held in the oven wall and which are shaped as piston cylinder units, the invention further characterized in that each grate side plate (12, 13) is secured to a piston (7) of the tensioning device (3) and supported and guided only by the piston (7), the tensioning device (3) having a cylinder (4) open towards the combustion chamber and a hollow piston (7) guided therein, which is charged by a spring element (26), supported by the bottom (29) of the cylinder (4), the piston (7) being securely fastened to the grate side plate (12, 13) with a piston bottom (10) and being sealingly guided by a "piston ^{sleeve} ~~shirt~~" (8) located inside the cylinder (4).
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b 2. The fire grate of claim 1, and further characterized in that the "piston^{sleeve}~~shirt~~" (8) has a length longer than the depth of the cylinder.

a 3. The fire grate of claim 1 ~~or 2~~, and further characterized in that each of the pistons has a circular shape and a diameter which is greater than one half of the height of the grate side plate.

a 4. The fire grate of claims 1, 2 ~~or 3~~, and further characterized in that neighboring pistons (7) are flexibly connected with each other along their free ends by guiding bars (34).

5 5. The fire grate of claim 4, and further characterized in that a joint connection resides between the piston (7) and the guiding bar (34), including a joint bolt (36) oriented at a right angle to the longitudinal axis of the piston (7) and extending through the guiding bar (34), the joint bolt held by support tongues (35) which are rigidly held on the piston (7) and which hold the guiding bar (34) therebetween.

a 6. The fire grate of ~~one of~~ claims 1-5, and further characterized in that the cylinders (4) are mounted to the bottom (5) of an oven recess, or setback (2), so as to be recessed at a depth such that the grate side plates (12, 13) at the operating temperature of the grate bars are aligned with the oven wall (1).

a 7. The fire grate of ~~one of~~ claims 1-5, and further characterized in that each of the grate side plates has a double wall, including a carrying plate (12) connected to the piston (7) and a grate border plate (13) depending therefrom, the grate border plate (13) having ribs (38) extending toward the carrying plate (12) and oriented transverse to the longitudinal axis.

8. The fire grate of claim 7, and further characterized in that the grate border plate (13) has at least two plate parts arranged one next to another along the longitudinal direction of the carrying plate (12), the total length of the plate parts corresponding to the length of the carrying plate (12).

2 9. The fire grate according to ~~one of the claims~~
a 1~~10~~, and further characterized in that each of the
b grate side plates (12, 13), ~~particularly the~~
c ~~corresponding grate border plate (13)~~, has a flange
5 (17) along an upper edge thereof, the flange (17)
extending toward the oven wall (1), and a covering
ledge (21) fastened onto the oven wall above the flange
(17).

10. The fire grate of claim 9, and further
characterized in that an elastically yielding, seal
(19) is fastened to the oven wall (1) between a free
B edge (18) of the flange (17) of ~~the grate side plate~~
B 5 ~~(12, 13)~~, ~~particularly the grate border plate (13)~~, and
the oven wall (1).

11. The fire grate of claim 10, and further
characterized in that a bridge (37') is located along
2 the backside of ~~the grate side plate (12, 13)~~,
B . ~~particularly the carrying plate (12)~~, the bridge (37')
5 extending along the longitudinal axis and the bridge
(37') extending sealingly into a groove (40) of the
sealing volume (19').

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12. The fire grate according to ~~one of~~ claims 9 & 11, and further characterized in that the covering ledge (21) includes a hollow space (23) which opens toward the flange (17), the hollow space (23) defined by an angle formed in the covering ledge (21).
13. The fire grate of ~~one of~~ claims 1 & 12, and further characterized in that the spring element (26) is adjustable in its tension.

13. The fire grate of ~~one of~~ claims 1-12, and further characterized in that the spring element (26) is adjustable in its tension.